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ABSTRACT

The purpose of this study was to identify the differences between students who profit from compensatory education programs and those who do not. The study looked at family systems, family interactions, and individual children's behavior from a point of view that subsumes cognitive and communicational style variables which differ from the framework of more traditional methods. The overall hypothesis was that family verbal behavior or characteristic communicative style could provide various kinds of perspectives and rules for behavior that become internalized for school children. Furthermore, it was proposed that these communicative styles within the family enhance or curtail the children's ability to listen, attend, conceptualize, and sit still. Family interviews were designed to identify communicational and cognitive levels. Also developed and pilot tested were behavioral tasks for small groups of children, administration of which permitted relevant communicational and cognitive behaviors to emerge. (KG)

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FINAL REPORT FOR INTERIM RESEARCH PERIOD

September 1st, 1968 to August 31st, 1969

OEO Contract No. B89-4590

A Study of Familial, Background, and Cognitive Style Characteristics of Relatively Successful and Unsuccessful Learners (Determined Longitudinally) in a Harlem Enrichment Program

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Acknowledgments

We would like to note that the current report is best regarded as an interim report rather than a final report, in the light of the fact that our year's work is being continued and expanded. An extensive review of the relevant literature, for example, is neither appropriate nor necessary at this point, but will be presented when all findings are integrated at the completion of the entire research program.

We wish to extend our thanks to the many people who have given us assistance in this study. We particularly want to express our gratitude to the school personnel who have cooperated with us and given us entry into the Harlem classrooms for the purpose of pilot-testing (Public Schools 80, on East 120th St., 83, on East 109th St., 100, on West 138th St., and 109, on East 99th St.) and final testing (Public Schools 68, on West 127th St., 79, on East 120th St., 90, on West 148th St., and 175, on West 134th St.).

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Chapter 1

Summary of Objectives of Investigation

The research described involves an attempt to construct "profiles" of those whom we shall call unsuccessful or successful learners (judged through longitudinal criteria) after several years of exposure to the Institute for Developmental Studies' demonstration and enrichment classes in four Harlem public schools in New York City. We were interested in ascertaining the differences between children who have made progress and those who have made little or no progress. The variables in which we were (and still are) interested, and which we will use to make the comparisons, fall into familial, cognitive, and communicational dimensions. The data we have collected, we should add, may yield important considerations for radical educational innovation.

An eventual "hard core" target population might well come from the ranks of those children on whom interventive and compensatory programs seem to make little or no impact. It could be that stress on cognitive style and communicational systems rather than on devices and aids, say, to teach reading, may be of tangible future significance. We would hope to be able to offer some generalizations as to the "why" of "gainers" and "nongainers" which go beyond the more conventional test approach but which are individually diagnostic, nevertheless.

Our chief objective, then, was to identify certain extremes in our pupil population--that is, those who profit from compensatory education and those who do not. We were interested in discovering the psychosocial parameters of these two subsamples so that we would be in a better position than we are at present to make recommendations about intervention and change with regard to the children for whom the usual interventive

techniques are not eminently successful.

In our original proposal, we outlined some important educational implications of this investigation, stemming from a basic consideration: why are some children, regardless of initial levels of general ability, unable (or less able) to profit from, to use, to absorb from, educational programs designed for them as the "target" population? Why are other (equally disadvantaged) children able (or more able) to gain, despite similarities in cultural background and ethnic status to that of the lower gainers? We thought, perhaps,that we had been looking at possibly important variables in the wrong way, or perhaps that we had not been teasing out the significant variables.

It was the overall purpose of this year's investigation to look at family systems, family interactions, and individual children's behavior from a point of view, a framework, that subsumes cognitive and communicational style variables in ways which differ from the framework of more traditional methods. The overall hypothesis of this research relates to the possibility that family "systems" and "milieus"--viewed in terms of how family members communicate with, and send "messages" to one another (their characteristic communicational style)--may provide various kinds of perspectives and "rules for behavior" that become internalized by the school-going members. Further, we hypothesized that these perspectives mediate (enhance or curtail) the children's abilities to listen, attend, conceptualize, sit still, etc.--abilities which are crucial to learning situations, be they formal or informal. (In the design of our research, we should note, however, that we had not ruled out the possibility that other, more "conventional" sociological and psychological variables may also play an important role in determining achievement-status, and indeed, we have included such variables in our interview schedule.)

To achieve our purposes, we developed a family interview, for use with families in a group situation, which encourages all members of the family to participate. This interview affords one or more raters the opportunity (we have used two rater-interviewers) to rate the family system for communicational and cognitive level on scales we have developed. We also developed and pilot-tested behavioral tasks for small groups of children which permitted the relevant communicational and cognitive behaviors to emerge--behaviors which were rated along the same communicational dimensions noted above.

In sum, then, we identified groups of children who had several years of exposure to the Institute's demonstration classes in Harlem elementary schools as either high gainers and low gainers in terms of several criteria (independent of initial IQ levels), and then attempted to relate various socio-psychological, background, communicational, and cognitive style variables to the status of the child (high or low), that is, in terms of his ability to profit from the enriched educational program in which he had participated for several years.

Our expectation was that the high gainers and the low gainers could be identified ("blindly"--through observer-raters) in the behavioral sessions by their cognitive styles and that their families could be characterized by certain psychosocial, language, and communicational features that would emerge and be observed and rated in a specially developed family interview (by a different set of observers who did not know the status--in terms of achievement--of the index child). We expected also, that we could develop reliable methods for eliciting and assessing the behaviors in which we were interested.

Chapter 2

Sample and Methodology

To recapitulate briefly our procedures: From the 1968-1969 group of fourth graders who had been "graduated" from all of the Institute's third-grade classes, relatively recent "fillers" were eliminated to insure a sample with maximum exposure to the enrichment program. From this group, a sample was selected on the basis of two criteria--high, or little or no gains on the Stanford-Binet test, and on the Gates-MacGinitie Vocabulary test. Gains were defined as increments from an initial point (three years prior and two years prior for the two instruments respectively) to a later point (1968) in time.

The two pupil-extremes thus identified were characterized by: (a) familial and background factors as well as ratings of "family systems" as to communicational and cognitive style, obtained by trained interviews (going into the homes) working with reliable observational methods and rating techniques; and (b) cognitive-style ratings of the children themselves randomly assigned to small "cognitive-style" sessions in which their communicational and language behavior was carefully observed and (reliably) rated by raters with no prior knowledge as to whether S is a gainer or nongainer.

To achieve the foregoing, major efforts were devoted to developing a reliable interviewing technique for assessing the family members communicational system as well as more "conventional" parameters; in addition, the development of behavioral tasks for our cognitive style sessions also required months of research activity, as did the development of rating scales for use in both of these assessment situations.

The current chapter describes in detail our efforts with regard to the foregoing: (a) sample; (b) the development of the behavioral sessions and the tasks; (c) the development of the family interview; and (d) the rating scales. Appendix A presents the coded interview schedule that finally

emerged as a result of our intensive research efforts in the past year.

The Sample

From the fourth graders in Public Schools 68, 79, 90, and 175 in Harlem, all children who had been in the Institute's third-grade classes were placed into an initial pool. From this pool, only those children who had had at least three years of exposure to the Institute's program, that is, entered in 1963 or 1964 at kindergarten or prekindergarten, were further selected. There were 36 such Ss. Table 1 presents the mean age, sex, and "filler status" of this group for each school and for schools combined. An examination of the discrepancy scores were made for these Ss in the following manner (see Tables 3-6):[1]

(1) High gainers and low gainers on the Stanford-Binet mental age discrepancy criterion. High gainers were defined as those 14 Ss whose discrepancy score was at least 2 years, 8 months (the top 40% of the sample). Low gainers were those 14 children whose discrepancy score was 2 years or less (the bottom 40% of the sample). The range of discrepancy scores is 2 years, 8 months to 4 years, 1 month for the former, and 2 years to 1 year, 2 months for the latter group.

(2) Very high and very low gainers on the Stanford-Binet mental age discrepancy criterion. Very high gainers were defined as those 11 children whose discrepancy score was at least 2 years, 10 months (the top 26% of the sample). Very low gainers were those 9 children whose discrepancy score was 1 year, 10 months or less (the bottom 23% of the sample). The range of discrepancy scores is 2 years, 10 months to 4 years, 1 month for the former, and 1 year, 10 months to 1 year, 2 months for the latter group.

(3) High gainers and low gainers on the Gates-MacGinitie Vocabulary Test. High gainers were defined as those 12 children whose discrepancy

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[1]Categories (1) and (3) contain categories (2) and (4).

score is at least 6 standard units (the top 39% of the sample) Low gainers were those 11 children whose discrepancy score was 2 standard units or less (the bottom 38% of the sample). The range of discrepancy scores is 6 standard units to 19 standard units for the former, and +2 standard units to -6 standard units for the latter group.

(4) Very high and very low gainers on the Gates-MacGinitie Vocabulary Test. Very high gainers were defined as those 9 children whose discrepancy score was at least 10 standard units (the top 27% of the sample). Very low gainers were those 9 children whose discrepancy score was negative (the bottom 29% of the sample). The range of discrepancy scores is 10 standard units to 19 standard units for the former, and -1 standard unit to -6 standard units for the latter group.

Tables 3 through 6 present various characteristics of the high gainers and low gainers, selected on the basis of the foregoing criteria. Table 3 compares initial mean Standard-Binet mental age scores (1965) of high and low gainers, and very high and low gainers. It can be seen from this table that the high and low groups thus designated do not significantly differ from each other in initial mean mental age scores. Table 4, which presents mean chronological ages (as of September, 1968) for the high and low groups, also shows that high gainers do not significantly differ from low gainers in chronological age.

Table 5 presents the initial mean Stanford-Binet mental age scores (1965), and Table 6 the mean chronological ages (September, 1968), of the high and low gainers as determined by the Gates-MacGinitie Vocabulary change scores (Spring 1966-Spring1968). These tables show that, both in terms of initial mental ages as well as chronological ages, high gainers do not differ significantly from low gainers as defined by their discrepancy scores.

The above findings are of considerable significance to the purpose

of our study, for they indicate that initial levels of general ability or of chronological age do not determine whether an S is designated as high or low in terms of the criteria we have used. They confirm our expectation that we must look elsewhere for variables that determine a child's change in the years of exposure to the Institute program. The current study represents an attempt to isolate at least some of the relevant variables.

Table 2 presents the number of index children eventually seen in the small group behavioral sessions (randomly assigned in terms of high and low status). Only 30 of the original 36 Ss were observed and "blindly" rated in these sessions, since six children moved out of the school district before the sessions were run. Table 2 also shows that all 36 of the families are involved in our interviewing procedures. As a matter of fact, at this writing, 35 of the 36 families have been interviewed.

The Behavioral Sessions

The pilot-testing of the cognitive style tasks was described in detail in the Progress Reports. A complete description of these tasks is presented at the end of this section. As can be seen, the behavioral sessions comprise a wide variety of tasks, permitting a range of relevant responses to occur and allowing the raters to observe different facets of cognitive style. We have found, for example, that Fifteen Questions (Task 3), elicits behaviors from which the observers can "judge" abstract thinking, logicality of thought, and the ability to ask questions. The Individual Picture Sequencing situations (Task 7) brought forth such thinking and language behaviors as the ability to form logical sequences, to make logical transitions, and to use elaborative language. The ability to put oneself in the place of the other was reflected in the Role Playing situation (Task 5). It should be noted, however, that there was not necessarily a one-to-one relationship between a task and a behavior to be rated. Such behaviors as listening ability, attention, task furtherance, and awareness of others, for example, cut across all tasks.

We have met the problem of eliciting ratable behavior from the shy or quiet child, easily overshadowed by more vocal or expressive children, by introducing three individual tasks: Individual Picture Sequencing (Task 7), Story Retelling (Task 8), and Enactment (Task 9). In these situations, each child had a chance to "perform."

In general, we feel that our tasks have adequately tapped the behaviors in which we were intersted. Moreover, the children enjoyed the sessions, spontaneously interacted among one another, and responded with sufficient variation along the behavioral dimensions in which we were interested to permit some range in the ratings which were made.

Leader-Rater Roles. Pilot-testing had indicated to us that our plan to have one experimenter administer the individual tasks while another experimenter administers the group tasks (with alternation of these roles), as discussed in Progress Report 32, was not feasible. Since both Es also perform as raters at the end of the session, their inability to observe two simultaneous activities for rating purposes forced us to employ only one leader to "run" the sessions. The same leader was used for all the sessions. In addition, two rater-observers were present during the sessions--the same two for all sessions.

Ratings. We decided to give each child one global rating (instead of several ratings) on cognitive and communicational style as a result of pilot-testing experiences (P.S. 100 on West 138th St.). We found that various aspects of cognitive and communicative style were not easily analysable into mutually exclusive areas. Further, the separate rating scales did not consistently reflect the variety of behaviors exhibited in the session; nor were the behaviors subsumed by the scales consistently exhibited by each child in the behavioral sessions.

Pilot-testing experiences with the group of rating scales described in Progress Report #2 also indicated to us the need for two more middle-scale points. Accordingly, there were six points on the single scale we employed:

Overall Rating for Cognitive and Communicational Style[2]

6	5	4	3	2	1	X
POOR					GOOD	can't rate; no opportunity to observe

[2] Note, the additional steps in the scale continue to force the rater to make a choice in the direction of (1) good or (6) poor cognitive and communicational style.

Ratings for each child were made immediately after the session was completed. The two raters were the same research staff members who assumed major responsibility for the development of the cognitive style tasks. Thus, they had ample experience in watching for the relevant behaviors as they emerged.

The global rating was based on a "summary" impression of behaviors which the raters built up while carefully observing the children as the behavioral sessions progressed. As an aid, the raters referred to and actually checked various points on the several scales employed in the family interview. Specifically, these "work" scales included: Mode of Communication; Listening and Attentional Skills; Responses to or Awareness of the Listener and Others in the Group; Task Furtherance and Completion; Transitions and Sequencing; and Conceptual Level of Communication: Abstractness, Elaboration, and Clarity. In addition, the raters kept running notes on each child during the sessions, pertinent to the qualities reflected in our conceptualizations about cognitive style.

Since four was considered the optimum number of children per group, six non-experimental children were added as "fillers" to our sample of thirty, so that each session would contain four children. Randomization was obtained by shuffling cards containing the names of the experimental children in each school and selecting the first four, the next four, etc., as members of any one group. The raters and leader did not know the composition of the groups--that is, who the "highs" or "lows" might be. Testing was completed in June.

The Behavioral Tasks

The development of the behavioral tasks and the extensive pilot-testing involved in this process have been presented in detail in the Progress Reports for the currently described investigation.

Unless otherwise indicated, the following tasks were presented to the children as a group situation in the behavioral sessions:

(1) Play. This was introduced with:

PRETEND THAT NEXT WEEK YOU HAVE TO PRESENT THE SCHOOL PLAY IN THE AUDITORIUM. PLAN IT AND TELL ME HOW YOU GO ABOUT IT AND WHAT YOU WILL DO. AFTER YOU HAVE ALL THE ARRANGEMENTS MADE, WE WILL GIVE YOU SOME PUPPETS TO ACT OUT THE PLAY WITH--BUT FIRST PLAN IT.

(2) Group Picture Sequencing. Four pictures from the Wiltwyck Family Interaction Apperception Test (FIAT) presented in Minuchin et al. (1967) were given to the children with the following instructions:

HERE ARE SOME PICTURES. YOU SHOULD ARRANGE THESE IN SOME ORDER AND ALL AGREE ON A STORY.

(3) Fifteen Questions. The instructions were:

NOW WE ARE GOING TO PLAY FIFTEEN QUESTIONS. LET ME TELL YOU HOW THE GAME GOES. I AM GOING TO THINK OF AN ANIMAL AND YOU HAVE TO GUESS WHICH ANIMAL BY ASKING ME QUESTIONS. I CAN ONLY ANSWER YES OR NO TO YOUR QUESTIONS. AND YOU CAN ONLY ASK 15 QUESTIONS SO DON'T WASTE ANY. DON'T ASK ME THE NAMES OF SPECIFIC ANIMALS, BUT ASK ME QUESTIONS ABOUT THE ANIMALS AS "IS IT BIG?" OR "DOES IT HAVE LONG EARS?" WHOEVER GUESSES THE ANIMAL WINS.

The categories of vegetable and fruit were employed after the above procedure.

(4) Television. This task was introduced with the following:

LET'S PRETEND YOU TWO ARE THE CHILDREN AND YOU TWO ARE THE PARENTS. NOW THE CHILDREN WANT TO WATCH A SPECIAL TELEVISION PROGRAM THAT IS ON LATE TONIGHT, BUT THE PARENTS DON'T WANT THEM TO. YOU, AS CHILDREN, GIVE THE PARENTS REASONS WHY YOU SHOULD BE ABLE TO WATCH IT AND YOU AS PARENTS, TELL THEM WHY NOT.

(5) Role Playing. Puppets were put on a table and introduced with:

HERE IS A FATHER, A MOTHER, AND TWO CHILDREN. NOW MAKE BELIEVE THE FATHER COMES HOME AND SAYS "LISTEN CAREFULLY BECAUSE I HAVE SOMETHING VERY IMPORTANT TO TELL YOU." ACT OUT WHAT THE FATHER SAYS AND WHAT HAPPENS NEXT.

The following situation was then presented with the required puppets:

TWO MOTHERS AND A TEACHER ARE HURRYING TO THE PRINCIPAL'S OFFICE. ACT OUT WHAT HAPPENS WHEN THEY GET THERE.

(6) Group Agreement. The instructions were:

NOW ALL OF YOU HAVE TO AGREE ON A PRESENT FOR YOUR TEACHER. DECIDE ON WHAT ONE THING YOU WOULD ALL LIKE TO GIVE HER.

(7) Individual Picture Sequencing. Each child was given three pictures from a series called Teaching Pictures, Resource Sheets (Tester, 1966) and told the following:

EACH OF YOU IS GOING TO GET SOME PICTURES. YOU ARE TO PUT THEM IN SOME ORDER AND TELL A STORY ABOUT THEM.

During this task, the rest of the children listen to each child's presentation.

After Task (7) was completed, the group of four was divided into two dyads for the administration of Tasks (8) and (9). Two of the children were seated by themselves and given materials with which to draw while the other two were with the leader. After Tasks (8) and (9) were completed with the first group, the two groups exchanged positions and the leader administered these tasks to the second group.

(8) Story Retelling. This was administered in the following manner:

I WILL TELL (NAME CHILD #1) A STORY. HE WILL THEN TELL IT TO (NAME CHILD #2). HERE IT IS:

STORY A

CAROL WAS LOOKING FOR A CHRISTMAS PRESENT FOR HER SISTER. CAROL CHOSE A PRETTY GREEN SWEATER, WHEN CAROL GOT HOME, SHE SAW THAT THE SALESLADY HAD GIVEN HER A SWEATER THAT WAS MUCH TOO BIG FOR HER SISTER. "OH WELL," SAID CAROL, "I GUESS I DID THE CHRISTMAS SHOPPING FOR MY MOTHER'S PRESENT TODAY."

NOW I WILL TELL YOU A STORY (NAME CHILD #2) AND THEN YOU WILL TELL IT TO (NAME CHILD #1).

STORY B

BILL WAS ON HIS WAY TO SCHOOL. BILL STOPPED AT ALBERT'S HOUSE TO CALL ALBERT. "ALBERT, ALBERT," HE CALLED. ALBERT'S MOTHER CAME TO THE WINDOW AND SAID, "YOU'RE LATE TODAY. ALBERT HAS ALREADY LEFT FOR SCHOOL." BILL RAN ALL THE WAY TO SCHOOL. BUT ALBERT WASN'T THERE. BILL HAD RUN SO QUICKLY THAT HE PASSED ALBERT AND GOT TO SCHOOL FIRST.

It was decided not to record the stories verbatim as described in Progress Report #2. Child #1 and child #2 were then presented the Enactment Task with the following:

(9) Enactment.

SHY: NOW I WANT YOU TO DO A LITTLE ACTING, AS THOUGH YOU WERE IN A PLAY. _____(NAME), YOU WILL PLAY THE PART OF THE TEACHER, AND _____(NAME), YOU WILL PLAY THE PART OF A LITTLE BOY/GIRL. _____, YOU HAVE JUST RETURNED FROM A TRIP TO THE ZOO. AND_____, YOU ARE GOING TO ASK_____ABOUT IT.

NOW_____, I WANT YOU TO BE A PARTICULAR KIND OF LITTLE BOY/GIRL. THIS BOY/GIRL IS VERY SHY. HE/SHE DOESN'T LIKE TO TALK UP IN CLASS, AND HE/SHE ISN'T A VERY GOOD TALKER. THE TEACHER MUST HELP HIM/HER TO TALK UP. YOU GET HIM/HER TO TALK.

BOLD: Same situation with the following change:

NOW, WE HAVE THE SAME SITUATION AGAIN--YOU ARE THE BOY/GIRL WHO HAS JUST COME BACK FROM THE ZOO. BUT, YOU ARE A VERY DIFFERENT KIND OF BOY/

GIRL FROM THE FIRST TIME. YOU ARE VERY BOLD. A BOLD CHILD IS TALKATIVE AND LOUD: THE OPPOSITE OF SHY. AND _____, YOU ARE STILL THE TEACHER. AND YOU KNOW THAT THIS BOY/GIRL IS BOLD--AND YOUR JOB IS TO TRY TO KEEP HIM FROM TALKING TOO MUCH.

Now child #1 and child #2 drew while Tasks (8) and (9) were administered to child #3 and child #4.

The Family Interview

The first stage of pilot-testing of the home inverview schedule was completed during the first few weeks of May. These pilot interviews were also used to train and orient the interviewers with regard to the specific and overall purposes of the interview and the kinds of observations of family interaction that are necessary for the family ratings. Using the schedule presented in Progress Report #2, the interviewers (two at a time) visited four ghetto families with the purpose of determining need for further revisions in the interview schedule and rating scales.

Progress Report #1 outlined our thinking about the characteristics of communicational and cognitive style which we think are related to the relative abilities of children to profit from, to make strides in, an enrichment program such as the one the Institute has been running. We noted then that our belief was that such styles arose from the experiences of the children growing up in certain types of family systems which generated different kinds of communicational styles--variables which could be, we thought, observed and rated, provided that the family members are given an opportunity to interact with one another in group, communicational situations. We were also interested, as noted at that time, in exploring other characteristics of the families (of a demographic nature, for example). Our task then became one of devising an interview situation which would yield several levels of behavior. These included demographic and interactive data, as well as data based on opportunities for family communication to arise. Previous progress reports described the development of this interview, in its various forms.

We should note that the interview, as we developed it, possessed the following characteristics, among many others:

(1) As many members of the family as were available were interviewed simultaneously.

(2) As far as possible, interview items were devised so that they

could be directed to the family as a group, providing an opportunity to observe family dynamics, such as who takes over, who makes the decisions, through whom are the "messages" sent, as well as other levels of family interaction such as the nature of its communication, its noise level, etc.

(3) We introduced specific family-oriented "tasks" in the interview situation to provide opportunities for the rating of cognitive and communicational styles.

As a first step in the development of our interview, we made a thorough assessment of the available literature and methods, but leaned particularly heavily on the Institite's own interview schedule especially developed for this population (see Bloom, Whiteman, & Deutsch, 1967) and the Deprivation Index based on empirical research with this schedule (see Whiteman, Brown, & Deutsch, 1967). Other sources for our items included: the schedule developed for an ongoing Institute research, Lower SES Child Rearing and Cognitive Differentiation (Deutsch, 1968); the schedule developed for the Center for Urban Education's Bedford-Stuyvesant study (1967); and the community self-survey schedule developed at the University of Iowa. Milner's report (1951) was quite helpful to us in conceptualizing some significant areas for the interview.

Item types examined for possible use included a large variety of questions concerning demographic data and a large pool of items assessing family interaction, the latter including such areas as child rearing practices, expression of positive and negative attitudes toward the children, and opportunities for and encouragement of verbal interaction. An extremely large pool of possible items was thus collected, from which we selected, modified, or rewrote items in accordance with our own needs:

(1) We were forced to exclude certain items not because of possible irrelevance, but because of time considerations: if we were to use a

lengthy interview schedule, there would not be sufficient time or interest on the part of the family to permit inclusion of the behavioral tasks essential for testing our hypotheses. Examples of items eliminated at this point are: number of appliances in the home; financial aspirations of parents; parental rating of neighborhood schools; and some aspects of child rearing practices. In general, most areas of possible relevance for our purposes were included, but in some instances, additional, more specific items were excluded.

(2) We eliminated or modified items on the basis of inappropriate conceptual level of their content. The Institute has vast experience with interviewing individuals from a ghetto population, especially the black ghetto. Queries involving some degree of abstraction or generalization on the part of the respondent have been found to be somewhat unsuccessful in eliciting responses; in addition, questions dealing with affect or which require introspection tend to elicit action-oriented, rather than feeling-oriented, responses. Many items were thus either reworded or eliminated on the basis of a priori as well as empirical considerations concerning the clarity of communication to the respondent, and his ability to respond on the conceptual level required.

(3) Items were eliminated or modified in terms of the usual criteria concerning awkward or value-laden wording which would put the interviewee on guard.

(4) We modified items to avoid the traditional mother-oriented questions so as to encourage family participation in responding to the items, as well as to reduce the possibility of establishing a set wherein only the mother or other parental figure responds. That is, interview items were designed or modified so as to encourage family interaction, both of a verbal or nonverbal nature. In the current interview schedule, some items are directed to the children only, some to the mother (and father, if present), and a large

number of items is directed to the entire family.

The interview schedule (see Appendix A, which contains the detailed coding instructions for the revised interview) as introduced to the families covered the following areas:

(1) Demographic data. Physical mobility of family; crowdedness; composition, size, and intactness of family unit; family's health ; parents' education and aspirations for children; parents' employment; and family's community participation.

(2) Interactive data. Parents' knowledge of activities and whereabouts of their children; role assignment and stablity of roles in the family; availability of adults for verbal interchange; encouragement of verbal interchange with adults; availability of reading material and encouragement of reading; family relationships in affective areas.

(3) Cognitive and communicational data. Family members' interaction and verbal and interchanges around content-questions designed to elicit a range of communicational behaviors--these behaviors provided, together with all preceding behavior, an opportunity for the raters to observe and rate the family on scales to be described in the next section.

In addition to the foregoing, data based on various observations of the home were obtained through ratings with respect to: type of building and condition of home interior.

As noted, ratings based on cognitive and communicational variables represented an extremely important portion of the data to be obtained from the family sessions. These are described at the end of this chapter.

The interviewing team for the formal interviews was composed of three staff members, one white (female) and two black (males). The staff member (female) who had major responsibility in the development of the interview schedule and considerable experience in its use was present at all interviews

while each of the two men, depending on their schedules and availability of families, were assigned (as close to randomly as possible) to particular interview sessions.

In several progress reports, it was stated that the black and white interviewers would be randomly assigned to the role of either interviewer or recorder for each interview (both roles involve making ratings at the end of the interview). We decided, however, to permanently assign the role of recorder to the white staff member in order to consistently use black interviewers in each of the family sessions.

It should be noted that the team's roles allowed for considerable flexibility of function. Although the active interviewers were the primary questioners, the recorder was encouraged to clarify any answers, correct any omissions made by the questioners, and offer additional probes believed to be necessary. This allocation of roles was found to be agreeable to all members of the interviewing team, seemed to work well within the family interviews, and has permitted both questioners and recorders to develop considerable expertise in their individual roles.

Training of the interviewers prior to pilot phases included role-playing sessions. Careful discussion of all aspects of the interview experience followed each pilot interview and served as further training. The latter procedure was also necessary for refining and polishing the interview schedule itself as well as the rating scales. Although the interviewers had thoroughly familiarized themselves with the schedule prior to the first pilot interview, there is no doubt, we might add, that the most valuable training emerged from the pilot interviews themselves.

The Pilot Interviews. The four pilot families were contacted with the help of the Institute's community aides--ghetto residents who are assigned to the schools from which the current sample is drawn. The initial

contact with these families was made by an aide who requested the family's permission. Each family was then called by a member of the interviewing team who scheduled the interview. So far, all interviews were scheduled for late afternoon or early evening since this seemed to be the most convenient time for the families and staff.

The four families were receptive to the aides and interviewer when contact was first made and receptive to the interview team during the actual interview. This pattern continued throughout the interviewing period. Each family (pilot as well as experimental) was paid $10.00 for its participation in the interview, and was so informed when first contacted. This remuneration was given to the family head in cash in an envelope at the beginning of each interview. The payment was rendered immediately after the initial introductions were made in the home so that the family would not feel that payment was contingent upon their interview performance.

The interviews lasted approximately an hour and a half and did not seem to tire either the family members or interviewers. All family members were encouraged to be present during the entire interview. This has not presented a major problem (although some children occasionally wandered in and out of the room in which the interviews were held.)

After the first four pilot interviews, the interview schedule was analyzed in depth by the research staff. Although the major areas to be covered during the interview had remained unaltered (see Progress Report #2), several changes were made at this point. These involved revisions in actual content as well as other changes, for example, in the sequence, wording, and suggested probes for some of the questions.

The family interview schedule is, of course, designed to elicit family interaction. To this end, a number of questions was directed to the entire family. During piloting, it was found that even though questions were

directed to the group as a whole, some of these (for example, "How do you feel about this apartment compared to the one you lived in before you moved here?") consistently elicited responses from the head of the house only. Thus, major changes were made in the sequences of questions, to ensure full family participation from the beginning of the interview. Those questions which tended to be answered by an adult family member only were moved to a later point in the interview, while those that were found to encourage interaction were moved to earlier points.

After piloting, some questions which seemed to overlap with others were omitted altogether as were those which tended to elicit vague answers from the respondents, or had been deemed not relevant to the research problem. Those questions considered highly relevant in content were analyzed thoroughly. Probes and additional parts were added to maximize their content, and more explicit direction was provided for the interviewers to acquire the desired information.

To the greatest extent possible, questions amenable to precoding were coded at this point. Those questions that could not precoded tended to be those that provided possibilities for qualitative observations of behavior for rating purposes. These had been purposely left open-ended to allow for extensive family interaction.

The rating scales (see below) were found to be applicable to the behavior observed during the pilot interviews. It was felt, however, that a four-point scale was too limiting for the wide range of behavior observed, even in the four pilot families. Thus, the scale was extended to six points, with points 3 and 4 slightly above and below a hypothetical "average cognitive style" for any individual scale.

The rating for overall communicational level presented great difficulty for the interviewers, who frequently found that the components of the family

unit (e.g., siblings and mother) differed in their styles of communication. This difficulty was resolved by constructing four separate ratings for: family as a whole; mother or parents; siblings; and index child. Thus, although a global family rating was still obtained, a greater differentiation among family members was now possible.

The "Formal" Interviews; Coding Procedures

To date, thirty-six of the thirty-seven sample families have been interviewed. The remaining family has been contacted numerous times by the interviewers for appointments, however. On several occasions, the interviewers visited this family at the scheduled time and found either that all or most family members were not at home or else were not prepared to be interviewed. Most of the interviews were completed during the months of June and July. Other interviews have been conducted this fall since some families left the city during the summer or sent their children to camp. Those families who have been seen by the interviewers have shown great cooperation, it might be noted. With almost all interview data in, preparation is being made for key punch operations and consequent analysis of the data. A final corrected version of the coding instructions has been completed (see Appendex A) and punching operations, at this writing, are about to begin.

The development of coding procedures for the interview has been a time-consuming process due to the length of the interview and the extensive qualitative material to be analyzed. As noted, wherever possible, interview questions were precoded to facilitate data collection. Precoding was not possible for open-ended items, however. The staff began to formulate codes for the qualitative material as soon as it was gathered. During the month of July, a sample of half of the family interviews was analyzed in depth to allow for the development of preliminary coding sheets. Using these initial coding instructions, two members of the research team were assigned the task

of transferring the data from the interview to the code sheets. This procedure was carried out independently by each of the two staff members for each interview. For every interview, these same staff members compared their individually compiled code sheets to ascertain consistent interpretation of codes. Where discrepancies existed, coders either rectified one coder's erroneous catergorization, or if the discrepancies were attributable to disagreement rather than error, notations were made as to possible existence of problems concerning the appropriateness or clarity of the item itself.

Once the preliminary coding was completed, one of the principal investigators and one of the coders (who was also the recorder during the home interviews) checked each item for discrepancies between coders and for categories that did not seem adequate for the data (e.g., items with numerous responses coded in the "other" category). Additional changes were then made such as simplifications, additions, and omissions, until the final set of coding instructions was devised.

Some problems faced by the coders were created by the very nature of the interview. One difficulty arose because this was indeed a "family" interview and several individuals could respond simultaneously to the same question. One example of this situation is provided by an item which asked the family where they they would like to move. Conceivably (and in actuality), a parent could have named one or more locations, while other family members might have offered a number of varying or congruent opinions. In this particular case, the wide variation of responses within the same interview prevented the development of a meaningful code and the item was eliminated.

Another problem was encountered in the interpretation of certain items. For example, Item 4 of the interview questioned parents as to their

occupational and educational aspirations for their children. A precoded section under this item necessitated the recorder's checking whether the parent did or did not differentiate among the children in his or her aspirations for them. Coders were unable to agree, however, on an interpretation of the meaning of "differentiation" in this context, and thus, this particular aspect of the item was omitted although other components of the item were retained.

The coders also faced some difficulties with certain codes that required a more thorough analysis of qualitative data as well as an examination of responses to several questions. For example, Items 15 and 16 of the coding instructions require the coders to rate the stability of the family's eating arrangements (a single rating). To arrive at this index, coders must carefully read responses to the questions: "Who usually eats breakfast at home?"; "Why doesn't [specific family member] eat here?"; "Who fixes breakfast?"; "Do you eat together?"; "If not, why not?"; "Which family members usually eat dinner together?"; "Why doesn't [specific family member] eat here?"; and "Who fixes dinner?"

Certain items were eliminated from the interview as a result of coding procedures because it was found that the responses did not discriminate among the families. An example is Item 38c of the interview, presence of books or magazines in the home (all families said they had books and/or magazines). Other items did not elicit a range of responses, or elicited material which did not yield the type of data considered valuable or relevant. These eliminated items constitute an additional step of interview revision. Appendix A therefore presents an accurate picture of the family interview as revised through piloting, formal interviewing, and coding procedures.

The Rating Scales

(1) Rating for Overall Communicational Level

Illustrations of behavior reflected in this overall, general rating (actually, all ratings and their content enter into this overall rating):

logical inconsistencies, shifting of content, contradictory, conflicting messages; many paraverbal messages; confusion about time, place, and specifics of an event being discussed; frequent interruptions of spoken messages; high noise levels, etc.; communications are delivered in a way which suggests that speaker does not expect to be heard; or if heard, messages are not expected to elicit a response from others; adults in the family do not expect children to focus selectively on most communications; (A la Piaget) nonsocial, egocentric verbalization, i.e., "egocentric verbal externalization"; unedited, abbreviated, subjective, idiosyncratic messages in situations calling for nonidiosyncratic messages; chaotic, disorganized quality of communications

Family

6	5	4		3	2	1	X
poor or low over-all level						good or high over-all level	can't rate; no opportunity to observe

Mother (Parents)

6	5	4		3	2	1	X

Siblings

6	5	4		3	2	1	X

Index Child

6	5	4		3	2	1	X

(2) Mode of Communication

Illustrations of behavior reflected in this rating:

preference for paraverbal, gestural modes for communicating; language is minimally used for exchange of information; subject emits more "noise" than message; high motility

6	5	4	3	2	1	X
prefers paraverbal mode of communi-cation					prefers verbal mode of communi-cation	can't rate; no opportunity to observe

(3) Formal Aspects of Communication (1): Listening and Attentional Skills

Illustrations of behavior reflected in this rating:

remains disengaged or detached from task or situation at hand, even though encouraged or urged to participate; shows poor listening skills; attention wanders, even though S (or family members) appears to be listening, the nature of his response indicates that he has not completely focused on what has been said

6	5	4	3	2	1	X
shows poor listen-ing and atten-tional skills					shows good listen-ing and atten-tional skills	can't rate; no opportunity to observe

(4) Formal Aspects of Communication (2): Responses to or Awareness of the Listener and Others in the Group

Illustrations of behavior reflected in this rating:

difficulties in changing and shifting the level of a message according to the characteristics of the listener; difficulties in communicating some aspects of another person (other than overt behavior) to a third person; difficulties in predicting responses of others in certain kinds of situations; difficulties in assuming the role of the other; difficulties in continuing stories in terms of the other's perspective; poor skills in emitting messages with "shared meanings"; poor skills in communicating the observed to the other

6	5	4	3	2	1	X
responses to and/or awareness of others in the group are inadequate					responses to and/or awareness of others in the group are adequate	can't rate; no opportunity to observe

(5) Formal Aspects of Communication (3): Task Furtherance and Completion

Illustrations of behavior reflected in this rating:

lack of concern with completing the task; failure to ask orienting questions; fails to exhibit exploratory behavior directed at solving and/or deciding on a task's structure; emits messagesirrelevant to a task's progress

6	5	4	3	2	1	X
fails to further task, or interrupts task-completion					furthers task or helps to complete it	can't rate no opportunity to observe

(6) Formal Aspects of Communication (4): Transitions and Sequencing

Illustrations of behavior reflected in this rating:

fails to signal interruptions or to provide cues to others that he is interrupting; makes irrelevant interruptions; difficulties in understanding that topics and verbal interchanges frequently have sequential aspects; responses not always along lines of communications that have preceded them; failure to follow, or continue topic of the other; disjointedness of verbal exchanges; irrelevant shifts; interrrupts own or others' thoughts or verbalizations; introduces unrelated themes

6	5	4	3	2	1	X
poor transitional and sequential skills					good transitional and sequential skills	can't rate; no opportunity to observe

(7) Conceptual Level of Communication: Abstractness, Elaboration, and Clarity

Illustrations of behavior reflected in this rating:

communications are barren and frequently devoid of the kind of detail in content necessary for exchange of information; preference for concrete rather than abstract language in situations in which more symbolic, conceptual material is required ; specific referents of messages are not clarified; referents are not made explicit; or there are shifts in referents; new referents not identified as such

6	5	4	3	2	1	X
poor conceptual skills					good conceptual skills	can't rate; no opportunity to observe

(8) Content Aspects of Communications or Messages

Illustrations of behavior reflected in this rating:

tends to produce contradictory messages; objective content of message is sacrificed for other kinds of content (power, relational, affective, etc. in re: E or group or family members); messages are transmitted to establish personal hierarchies, power, or role--that is, they are relationship rather than content messages; verbal or paraverbal messages are inappropriate in content

6	5	4	3	2	1	X
poor skills in communicating objective content of messages					good skills in communicating objective content of messages	can't rate; no opportunity to observe

(9) Especially for mother or family leader:

Introspectiveness ("looking at one's own behavior")

Illustrations of behavior reflected in this rating:

difficulties in responding to queries and topics relating to subjective content (inability to describe own feelings or to describe inferences about children's feelings or thoughts); paucity of response is more marked in this area than with more objective content; inability to verbalize content of introspection to others

6	5	4	3	2	1	X
poor introspective skills					good introspective skills	can't rate no opportunity to observe

(10) Especially for mother or family leader:

Generality of Responses to Others

Illustrations of behavior reflected in this rating:

fails to differentiate responses to individual members of the group; reprimands nearest child rather than source; anger is generalized to all members of the group rather than source

6	5	4	3	2	1	X
generalizes responses to others					individualizes responses to others	can't rate; no opportunity to observe

(11) Mother or Parental Figure's Role in Maintaining the "Rules" of Effective Communication

Illustrations of behavior reflected in this rating:

mother or family leader does not seem to enforce, or to expect members to follow, the "rules" of communication, i.e., listening, expecting a response, not shifting, etc.; mother or family leader fails to redirect or refocus subject matter of family discussion to the relevant topic, that is the subject-matter at hand

6	5	4	3	2	1	X
fails to enforce "rules" of effective communication					enforces "rules" of effective communication	can't rate; no opportunity to observe

Chapter 3

Early Findings; Abstract of Continuation Research

The material presented in this chapter is based on results of initial data analysis procedures, and consist of reliability findings (interrater agreement in the behavioral sessions) and findings based on the relationship between the "high" or "low" achievement status of S and the rating he received in the behavioral session. These findings are reported immediately below. This brief chapter ends with a description of the continuation research (1969-1970) which is well underway.

It should be noted that the interview we developed is now coded and the extensive data it yielded are being prepared for the computer. Findings based on the relationship of interview content and ratings of high or low achievement status and performance in the behavioral sessions cannot, therefore, be reported. These findings should yield not only much material of considerable relevance to the purposes of our investigation, but also many important considerations on which an ultimate revision of our interview should be based.

Reliability of Ratings--Cognitive Style Behavioral Sessions

Interrater agreement was indexed by means of Cohen's weighted kappa (1968). As a statistic, weighted kappa not only corrects for chance agreement, but also allows for differential weighting of disagreements according to the degree of gravity of such disagreements. It was therefore possible to weight scale point disagreements on the same side of the implicit midpoint less heavily than disagreements across the midpoint of the rating scale. The weights employed for this procedure ranged from 0 to 5; the larger the weight, the greater the disagreement. A weight of 0 indicates no disagreement, and a weight of 5 indicates maximum disagreement. Table 7 presents the frequency distribution of the ratings by paired observers for the cognitive style behavioral sessions. Table 8 contains a matrix of the weights we employed in computing weighted kappa. These data yielded a reliability coefficient (weighted kappa) of .51 resulting in a z of 3.92 ($p < .0002$, two-tailed), indicating high interrater agreement. The foregoing analysis is based on 34 cases remaining after the elimination of ratings where one observer each used the "can't rate" category. It should be noted (see Table 2) that 30 Ss in the behavioral sessions were experimental Ss although the initial sample consisted of an N of 36. Six Ss were not seen in the behavioral sessions because they had transferred out of the school district during the academic year, 1968-1969. However, six nonexperimental Ss were added to the group seen in the behavioral sessions in order to maintain a consistent size of four Ss for each session. The reliability findings reported currently were therefore based on 34 subjects, of whom 29 were experimental Ss (the category "can't rate" was used for two subjects, one of whom was an experimental S).

An unweighted kappa (based on grouped data by dichotomizing scores on

either side of the scale midpoint) was also computed for the data. Table 9 presents the distribution of observers' overall ratings by midpoint split into good and poor cognitive style designations. These data yielded a reliability coefficient (unweighted kappa) of .53, resulting in a z of 3.14 ($p < .002$, two-tailed). As with weighted kappa, reported above, unweighted kappa was highly significant, again indicating a high degree of interobserver agreement.

Relationship of High and Low Achievement Status and Cognitive Style Ratings

Table 10 presents the frequency distributions of cognitive style ratings (behavioral sessions) for high and low gainers and very high and low gainers as defined by Binet mental age discrepancy scores, and Table 11 presents frequency distributions for the same ratings in terms of the Gates-MacGinitie high and low designations. Point biserial correlation coefficients (Nunnally, 1967) and t tests were computed for these data to examine the relationship between these subject designations (based on achievement at school) and the cognitive style behavioral ratings.

Point biserial coefficients were used because of the nature of the data. The rating scale employed, for example, was essentially a dichotomous scale--with a forced choice rating made above or below the implicit scale midpoint.

It was expected that there would be a positive correlation between discrepancy score measures and cognitive style ratings. That is, those subjects who increased most on a given measure (MA or vocabulary score), the high gainers, would tend to be rated "good" in cognitive and communicational style in the behavioral sessions, and those subjects who increased least on a given measure would tend to be rated "poor" in cognitive style in the behavioral sessions.

Table 12 presents the results of analyses of the relationship between Binet discrepancy scores and the behavioral ratings. Point biserial coefficients and p values based on t tests indicate that the relationship is a negligible one or due completely to chance. Our hypothesis in regard to expecting a positive relationship between high or low subject designations and ratings made of behavior in specially developed "cognitive style" sessions was thus not borne out. This is true both for the extreme "high" and "low" groups as well as for the larger groups of "highs" and "lows" (see Table 12 for definitions of these samples).

Table 13 presents the results of analyses of the relationship between Gates discrepancy scores and the behavioral ratings. Point biserial coefficients and p values based on t tests indicate that, as with the foregoing scores, the relationship is a negligible one or due completely to chance. Thus, for both the extreme "high" and "low" groups, as well as for the larger group of subjects (defined in terms of Gates change scores), our hypothesis regarding an expected relationship to the behavioral ratings was not confirmed.

Our present activities in connection with last year's research involve a detailed exploration of family interview content and family ratings as they relate to the index child's behavioral rating in the cognitive style session and the designation of that child as to achievement status. Results of these explorations cannot be currently reported because the data are still being analyzed. In addition, we have begun numerous activities in connection with the continuation research (1969-1970), the objectives and methods of which are briefly described in the next section.

The Continuation Research (1969-1970): Abstract

(1) Objectives. In our current attempts to identify and characterize the extremes of our pupil population--that is, those who profit from compensatory education and those who do not--in terms of various psycho-social parameters, we have developed an instrument of family assessment involving a family interview schedule and a set of rating scales. These methods differ from more conventional methods in their focus on language and communicational processes, and in their focus on family members' interaction with one another. We are continuing this research with a new, but equivalent pupil population in order to replicate and cross-validate the specially developed family interview schedule and cognitive and communicational rating procedures in an attempt to see if the same variables or sets of variables continue to distinguish the high gainers and low gainers. The continuation research, in addition, gives us an opportunity to explore several collateral variables thought to be of significance in understanding the differences between those children who have gained and those who have made little progress.

One of our major long range objectives is to plan relevant and focused educational and remedial strategies in the light of our findings. Another long range objective is to offer the professional community some techniques for assessment and prediction that are highly appropriate for disadvantaged, urban children, specifically: an instrument of family assessment, a set of rating scales for language and communicational styles, and a method for measuring self-concepts for which there will have been accumulated substantial reliability and validity evidence. An additional objective is concerned with the eventual possibility of being able to predict the future academic status of such children as are represented by our sample in terms of various family, communicational, language, and related

variables.

In the past year's (1968-1969) procedures, we had not been able to explore the role of self-concept in distinguishing our pupil-groups; nor had we introduced available, standardized instruments for assessing various aspects of language ability. Our purpose, then, in continuing our investigation was to fill these gaps.

(2) Procedures. From the 1968-1969 group of third-graders in our Harlem demonstration classes, after having eliminated relatively recent "fillers" to insure a sample with maximum exposure to the enrichment program, a sample has been selected on the basis of gains on the Stanford-Binet and the Peabody Picture Vocabulary Test. Gains are defined as increments from an initial point (three years prior) to a later point (current) in time. The two pupil extremes thus identified will be characterized by: (a) familial and background factors as well as ratings of "family systems" as to communicational and cognitive style (obtained by trained interviewers going into the homes working with reliable, observational methods and rating techniques); this aspect of the research will enable us to replicate and cross-validate our current family interview and rating procedures; (b) measures of self-concept and self-perception as determined by a Q-sort technique and developed in extensive pilot-testing phases of the current research; and (c) scores on the Illinois Test of Psycholinguistic Abilities. Extensive reliability explorations of all our measures are planned.

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Table 1

Mean Age and Sex of Fourth Graders who were in the Institute Program from Prekindergarten or Kindergarten through the Third Grade

Public School	N	Sex	Classification[a]	Mean Age[b]
68	5	M--2 F--3	E	112.00
	4	M--0 F--4	FK	111.75
Total	9			111.88
79	4	M--1 F--3	E	114.00
	2	M--2 F--0	FK	111.50
Total	6			113.17
90	5	M--4 F--1	E	112.00
	5	M--3 F--2	FK	111.80
Total	10			111.90
175	8	M--4 F--4	E	111.25
	3	M--1 F--2	FK	109.00
Total	11			110.54
Total, Schools Combined	22		Es	112.04
	14		FKs	111.14
	36	M--17 F--19		111.69

[a] E designates subjects who entered the IDS program in prekindergarten (1963); FK designates subjects who entered the IDS program in kindergarten (1964).

[b] As of September, 1968. Converted into months. Mean age for all Ss is just over 9 years, 4 months.

Table 2

Sample of 1968-1969 Fourth Graders who were in the Institute Program from Prekindergarten or Kindergarten through the Third Grade: Ns per School, Families Interviewed, and Index Children Observed in Cognitive Style Behavioral Sessions

Public School	Number of Subjects (Index Ss)	Number of Index Families Interviewed	Number of Index Ss observed in Behavioral Sessions
68	9	8[a]	3[b]
79	6	6	6
90	10	10	8[b]
175	11	11	10[b]
Total, Schools Combined	36	35[a]	30

[a] One index family has consented to be interviewed, but this interview has not been completed; once completed, the N for this school will be 9 and for schools combined, 36.

[b] Three children in Public School 68, two children in Public School 90, and one child in Public School 175 were not observed in the behavioral sessions because they transferred out of the school district during the 1968-1969 academic year. The total N observed in the behavioral sessions was therefore 30. Of the six Ss not seen, there was an equal number of males and females. Two of these Ss were, in terms of "filler" status, Es, and four were FKs (see Table 1 for explanation of these terms). Mean age calculated for the N of 30 is 111.97 months, barely differing from the mean age reported in Table 1 for the 36 Ss, 111.69 months.

Table 3

Initial Mean Stanford-Binet Mental Age Scores (1965) of High and Low Gainers as Determined by Stanford-Binet Mental Age Change Scores (Spring 1965--Spring 1968)

	N	Mean M.A.[a]	S.D.	t	p
High Gainers	14	73.43	7.89	.64	n.s.
Low Gainers	14	71.50	8.08		
Very High Gainers	11	74.00	8.08	.38	n.s.
Very Low Gainers	9	72.56	8.85		

Note.-- High and low gainers are defined by top and bottom 40% of the sample. Very high and very low gainers are defined by top 26% and bottom 23% of the sample. The initial pool had an N of 36 (see Table 1). The experimental sample on which Table 3 is based,however, had an N of 35, because of the lack of Stanford-Binet posttest data for one S.

[a]Converted into months.

Table 4

Mean Chronological Age (September 1968) of High and Low Gainers as Determined by Stanford-Binet Change Scores (Spring 1965--Spring 1968)

	N	Mean C.A.[a]	S.D.	t	p
High Gainers	14	112.21	3.19	.93	n.s.
Low Gainers	14	111.07	3.29		
Very High Gainers	11	112.45	2.54	.51	n.s.
Very Low Gainers	9	111.78	3.35		

Note.-- See Note, bottom of Table 3.

[a] Converted into months.

Table 5

Initial Mean Stanford-Binet Mental Age Scores (1965) of High and Low Gainers as Determined by Gates-MacGinitie Vocabulary Change Scores (Spring 1966--Spring 1968)

	N	Mean M.A.[a]	S.D.	t	p
High Gainers	12	72.83	9.78	.63	n.s.
Low Gainers	11	75.09	6.91		
Very High Gainers	9	76.00	8.77	.22	n.s.
Very Low Gainers	9	76.78	5.61		

Note.--High gainers are defined by the top 39% of the sample and low gainers by the bottom 38% of the sample. Very high gainers are defined by the top 27% of the sample, and very low gainers by the bottom 29% of the sample. The initial sample had an N of 36. Since 8 Ss had to be eliminated because of lack of posttest Gates-MacGinitie data for them, high and low status was determined on the basis of 28 Ss.

[a] Converted into months.

Table 6

Mean Chronological Age (September 1968) of High and Low Gainers as Determined by Gates-MacGinitie Vocabulary Change Scores (Spring 1966--Spring 1968)

	N	Mean C. A [a]	S.D.	t	p
High Gainers	12	111.25	3.82	1.07	n.s
Low Gainers	11	112.64	2.04		
Very High Gainers	9	111.56	3.78	.79	n.s.
Very Low Gainers	9	112.67	1.94		

Note.-- See Note, bottom of Table 5.

[a]Converted into months.

Table 7

Frequency Distribution of Ratings for Cognitive and Communicational Style--Behavioral Sessions--for Two Raters

Observer A

Observer B	Ratings for Cognitive and Communicational Style					
	1 (Good)	2	3	4	5	6 (Poor)
1 (Good)		2				
2	2	1	1			
3		1	5	2		
4	1	4	5	2	1	
5		1	1	3	1	
6 (Poor)				1		
Total						34

Note.-- Each observer made an overall rating of cognitive and communicational style (see Chapter 2) on the basis of a 6-point scale with anchor points of (1) Good, and (6) Poor. Total N on which this table is based is 36 of which 30 were experimental subjects and 6 were additional Ss randomly assigned to the sessions (see text for explanation). Two Ss were eliminated because they fell into a "can't rate" classification; there was 1 such S for each observer.

Table 8

Weighting Matrix for Disagreements Between Paired Observers in Cognitive Style Sessions--for Reliability Analysis

	Observer A Ratings for Cognitive and Communicational Style					
Observer B	1 (Good)	2	3	4	5	6 (Poor)
1 (Good)	0	1	2	3	4	5
2	1	0	1	2	3	4
3	2	1	0	1	2	3
4	3	2	1	0	1	2
5	4	3	2	1	0	1
6 (Poor)	5	4	3	2	1	0

Table 9

Frequency Distribution of Observers' Ratings of Cognitive Style by Midpoint Split[a]

	Observer A		
Observer B	Good	Poor	Total
Good	12	2	14
Poor	6	14	20
Total	18	16	34

[a] See Note, Table 7.

Table 10

Frequency Distributions: High and Low Gainers (Upper and Lower 40%) and Very High and Low Gainers (Upper 26% and Lower 23%) as Defined by Binet Mental Age Discrepancy Scores (in Months) and Cognitive Style Rating[a]

Subject Code No.	Mental Age Discrepancy Score	Cognitive Style Rating[b]	
	High Gainers		
202	49	poor	
225	47	good	
297	39	poor	Very High Gainers
230	36	good	
300	36	good	
289	32	poor	
386	32	poor	
484	32	good	
	Low Gainers		
374	24	good	
482	24	poor	
488	24	good	
378	22	good	
470	22	good	
212	21	poor	Very Low Gainers
224	20	poor	
399	20	good	
467	20	poor	
381	16	good	

[a] This table is based on an N of 18 Ss. The initial pool of Ss contained 36 cases, but 6 children had moved out of the school district before the behavioral sessions were run. One additional S was eliminated because there was no available Binet posttest data. Four of the Ss were deliberately eliminated because they fell between established cut-off points, that is, were not regarded as high or low gainers on the basis of a priori considerations; and 7 additional Ss were eliminated because of rater-disagreements.

[b] "Good" refers to ratings of 1, 2, or 3 and "poor" to ratings of 4, 5, and 6 on the overall scale.

Table 11

Frequency Distributions: High and Low Gainers (Upper 39% and Lower 38%) and Very High and Low Gainers (Upper 27% and Lower 29%) as Defined by Gates-MacGinitie Discrepancy Scores (Standard Units) and Cognitive Style Rating[a]

Subject Code No.	Gates Discrepancy Score (Standard Units)	Cognitive Style Rating[b]	
	High Gainers		
399	19	good	
202	18	poor	
381	17	good	
230	14	good	
216	13	poor	Very High Gainers
378	13	good	
224	12	poor	
374	10	good	
386	8	poor	
	Low Gainers		
476	2	good	
470	-1	good	
294	-1	poor	
297	-2	poor	Very Low Gainers
289	-4	poor	
225	-6	good	

[a]This table is based on an N of 15 Ss. The initial pool of Ss contained 36 cases. Six Ss were not seen in the behavioral sessions, however, because they had moved out of the school district during the year. Six additional Ss lacked posttest data for the Gates, and therefore had to be eliminated; an additional 3 Ss were deliberately excluded because they fell between established cut-off points, that is, were not regarded as high or low gainers on the basis of a priori considerations; and 6 Ss were eliminated because of rater-disagreements.

[b]"Good" refers to ratings of 1,2, or 3 and "poor" to ratings of 4, 5, and 6 on the overall scale.

Table 12

The Relationship Between Stanford-Binet Mental Age Discrepancy Scores (Months) and Cognitive Style Ratings based on the Behavioral Sessions

Cognitive Style Designation	N	Mean Mental Age (Months)	S.D.	t	p	Point Bi-Serial r
Good[a]	10	27.90	9.53	.37	n.s.	-.09
Poor	8	29.62	10.46			
Good [b]	7	28.43	11.31	.19	n.s.	-.06
Poor	5	29.80	13.44			

Note.--See Table 10 for explanation of the Ns involved.

[a]For sample of top and bottom 40% of Ss defined by Binet change scores.

[b]For sample of top 23% and bottom 26% of Ss defined by Binet change scores.

Table 13

The Relationship Between Gates-MacGinitie Discrepancy Scores and Cognitive Style Ratings based on the Behavioral Sessions

Cognitive Style Designation	N	Mean Gates Discrepancy (Standard) Scores	S.D.	t	p	Point Bi-Serial r
Good[a]	8	8.50	9.09	.48	n.s.	.13
Poor	7	6.29	8.62			
Good[b]	7	9.43	9.40	.66	n.s.	.19
Poor	6	6.00	9.40			

Note.-- See Table 11 for explanation of the Ns involved.

[a]For sample of top 39% and bottom 38% of Ss as defined by Gates change scores.

[b]For sample of top 27% and bottom 29% of Ss as defined by Gates change scores.